

**INCH-POUND**  
MIL-PRF-3098/123C  
May 17, 2004  
**SUPERSEDING**  
MIL-PRF-3098/123B  
1 October 1997

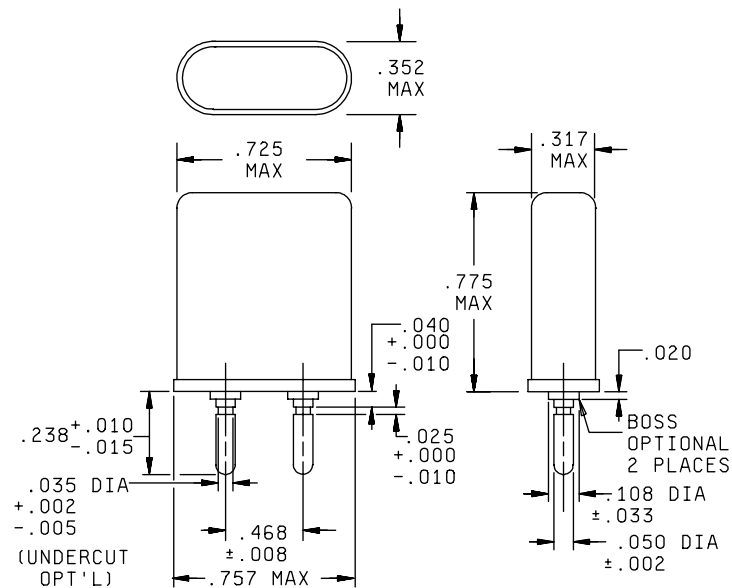
## PERFORMANCE SPECIFICATION SHEET

## CRYSTAL UNIT, QUARTZ, CR142/U

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-3098.

Pertinent characteristics: 833.333 kHz; fundamental mode; controlled; antiresonance.



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.002	.05	.020	.51	.050	1.27	.486	12.34
.005	.13	.025	.64	.108	2.74	.725	18.42
.008	.20	.033	.84	.238	6.05	.757	19.23
.010	.25	.035	.89	.317	8.05	.775	19.69
.015	.38	.040	1.02	.352	8.94		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking to be in accordance with MIL-PRF-3098.

FIGURE 1. Crystal unit - CR142/U.

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REQUIREMENTS:

Dimensions, marking, and configuration: See figure 1.

Frequency: 833.333 kHz.

Capacitance, shunt: 7.0 pF, maximum.

Mode of oscillation: Fundamental.

Rated drive level: 1.0 mW, maximum.

Calibration values:

Equivalent-resistance: Zero ohms.

Crystal current: Set crystal current control at extreme counterclockwise, minimum.

Antiresonance, load capacitance: 32.0 pF  $\pm$ 0.2 pF.

Reference temperature: 75°C  $\pm$ 1°C.

Operating temperature range (controlled): +70°C to +80°C, inclusive.

Frequency tolerance:  $\pm$ 0.001 percent.

Equivalent resistance: 275 ohms, maximum.

Frequency stability:  $\pm$ 0.0005 percent.

Operable temperature range: -55°C to +70°C and +80°C to +90°C, inclusive.

Shock:

Frequency change permitted:  $\pm$ 0.0005 percent.

Equivalent resistance:  $\pm$ 15 percent.

Vibration: Method 201, MIL-STD-202.

Frequency change permitted:  $\pm$ 0.0005 percent.

Equivalent resistance change permitted:  $\pm$ 15 percent.

Temperature cycling:

Frequency change permitted:  $\pm$ 10 Hz.

Equivalent resistance change permitted:  $\pm$ 20 percent.

Aging:

Frequency change permitted:  $\pm$ 0.0005 percent.

Reference documents. In addition to MIL-PRF-3098, this document references the following:

MIL-STD-202

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:

DLA - CC

(Project 5955-0759)

Review activities:

Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).